

*Federated Malay States.*

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THE MEDICAL REPORT

FOR THE

STATE OF SELANGOR,

1905.

RETURN OF THE STATISTICS OF POPULATION OF SELANGOR  
FOR THE YEAR 1905.

State of Selangor.	Europeans and Eurasians.	Chinese.	Malays.	Tamils.	Others.	Total.
Number of inhabitants on 31st Dec., 1904	2,465	153,854	53,972	22,539	1,574	234,404
„ Births during the year 1905	61	653	1,604	202	337	2,857
„ Deaths „ 1905	27	4,535	1,114	790	290	6,756
„ Immigrants „ 1905	1,405	40,080	12,477	15,870	1,313	71,145
„ Emigrants „ 1905	881	29,091	10,185	8,696	295	49,148
„ Inhabitants on 31st Dec., 1905	3,023	160,961	56,754	29,125	2,639	252,502
Increase, or ... ..	558	7,107	2,782	6,586	1,065	18,098
Decrease ... ..	...	...	...	...	...	...

METEOROLOGICAL RETURN OF KUALA LUMPUR FOR THE YEAR 1905.

	Temperature.						Rainfall.*		Winds.	
	Solar Maximum.	Minimum on Grass.	Shade Maximum	Shade Minimum.	Range.	Mean.	Amount in Inches.	Degree of Humidity.	General Direction.	Average Force.
January ... ..	150.4	53.0	89.6	71.0	18.6	80.6	5.01	80	Calm.	Not recorded.
February ... ..	151.1	53.1	89.3	70.7	18.6	79.8	6.23	81	S.W.	
March ... ..	147.2	52.8	92.0	71.4	20.6	81.6	6.08	75	S.S.W.	
April ... ..	147.5	52.5	91.3	71.8	19.5	80.8	10.19	79	Calm.	
May ... ..	147.6	52.9	89.8	71.9	17.9	79.4	14.60	84	S.W.	
June ... ..	148.8	52.9	91.2	71.6	19.6	81.1	3.95	77	S.W.	
July ... ..	149.1	52.7	89.4	70.6	18.8	79.9	6.03	81	S.E.	
August ... ..	150.1	52.4	89.4	70.0	19.4	79.5	7.59	82	Calm.	
September ... ..	146.9	52.5	89.5	70.8	18.7	80.3	6.51	80	Calm.	
October ... ..	146.7	52.3	89.4	70.9	18.5	79.5	7.66	80	S.W.	
November ... ..	150.2	51.5	89.1	71.3	17.8	79.7	5.89	81	Calm.	
December ... ..	148.8	53.2	89.9	71.5	18.4	81.3	19.22	80	Calm.	
Means ... ..	148.7	52.6	89.9	71.1	18.8	80.3	8.24	80	Calm.	

\* Total rainfall 98.96 inches.

RETURN OF DISEASES AND DEATHS IN 1905 AT  
ALL HOSPITALS IN SELANGOR.

Diseases.	* Remaining in Hospital at end of 1904.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1905.
		Admis- sions.	Deaths.		
GENERAL DISEASES.					
Small-pox ... ..	...	1	...	1	
Chicken-pox ... ..	1	6	...	7	
Measles ... ..	...	13	...	13	
Typhus ... ..	...				
Dengue ... ..	3	256	...	259	4
Influenza ... ..	1	9	...	10	
Plague ... ..	...	2	1	2	
Mumps ... ..	...	7	...	7	
Diphtheria ... ..	...				
Enteric Fever ... ..	1	80	19	81	4
Febricula ... ..	...	7	...	7	
Cholera ... ..	...				
Dysentery ... ..	23	935	303	958	43
Yellow Fever ... ..	...				
Beri-beri ... ..	263	1,952	330	2,215	323
Malarial Fever—					
(a) Intermittent—					
Malignant ... ..	19	470	56	489	6
Quotidian ... ..	...	178	28	178	7
Tertian ... ..	3	209	12	212	9
Quartan ... ..	5	118	5	123	8
Irregular ... ..	...	15	2	15	
Type undiagnosed ... ..	48	1,022	25	1,070	41
(b) Remittent ... ..	...	10	10	10	
(c) Pernicious R. ... ..	...	26	20	26	
Cachexia ... ..	4	163	18	167	7
Phagedæna—					
(a) Sloughing ... ..	7	21	9	28	
(b) Hospital gangrene ... ..	...				
Erysipelas ... ..	...	6	2	6	
Carried forward ...	378	5,506	840	5,884	452

\* i.e., the year previous to that for which the Return is made.

† “Total cases treated” will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year’s Return.



Diseases.	* Remaining in Hospital at end of 1904.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1905.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	378	5,506	840	5,884	452
GENERAL DISEASES---(cont.)					
Pyæmia ...	...	1	1	1	
Septicæmia ...	...	6	6	6	
Tetanus ...	...	2	2	2	
Tubercle ...	...	26	9	26	4
Leprosy—	137	119	45	256	153
(a) Tubercular ...	...				
(b) Anæsthetic ...	...				
Yaws ...	...				
Syphilis—					
(a) Primary ...	8	117	...	125	3
(b) Secondary ...	31	173	9	204	12
(c) Inherited and Tertiary ...	...	113	6	113	11
Gonorrhœa ...	8	210	1	218	9
Hydrophobia ...	...				
Scurvy ...	...				
Alcoholism ...	2	24	...	26	2
Delirium Tremens ...	...				
Rheumatic Fever ...	...	3	...	3	
Rheumatism ...	44	663	1	707	37
Gout ...	...				
New Growth, non-malignant ...	1	32	2	33	6
Do. malignant ...	...	4	3	4	
Rickets ...	...	6	2	6	
Anæmia ...	20	370	62	390	21
Myxœdema ...	...				
Diabetes mellitus ...	1	3	2	4	
Do. insipidus ...	...	3	1	3	1
Debility ...	8	213	27	221	15
Other Diseases ...	10	34	10	44	
<i>Carried forward</i> ...	648	7,628	1,029	8,276	726

\* i.e., the year previous to that for which the Return is made.

† “Total cases treated” will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases	* Remaining in Hospital at end of 1904.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1905.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	648	7,628	1,029	8,276	726
LOCAL DISEASES.					
NERVOUS SYSTEM.					
Sub-Section 1—					
Neuritis ...	...	6	...	6	
Meningitis ...	...	2	2	2	
Myelitis ...	7	14	3	21	
Hydrocephalus ...	...				
Encephalitis ...	...				
Abscess of Brain ...	...	1	1	1	
Congestion of Brain ...	...				
Sub-Section 2—					
Apoplexy ...	8	12	7	20	3
Paralysis ...	13	47	12	60	28
Bed-sore ...	...				
Chorea ...	...				
Epilepsy ...	...	6	...	6	
Neuralgia ...	1	21	...	22	
Hysteria ...	1	4	...	5	
Sub-Section 3—					
Idiocy ...	3	...	...	3	
Mania ...	30	63	22	93	20
Melancholia ...	28	54	20	82	22
Dementia ...	19	22	11	41	7
Delusional Insanity ...	2	12	1	14	2
Other Diseases of the System ...	33	119	18	152	24
EYE.					
Conjunctiva—					
Conjunctivitis ...	4	63	1	67	4
Cornea—					
Keratitis ...	...	3	...	3	
Ulceration ...	7	47	1	54	7
Opacity ...	...				
<i>Carried forward</i> ...	804	8,124	1,128	8,928	843

\* *i.e.*, the year previous to that for which the Return is made.

† “Total cases treated” will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1904.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1905.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	804	8,124	1,128	8,928	843
LOCAL DISEASES—(cont.)					
EYE—(cont.)					
Schlerotic—					
Staphyloma... ..					
Iris—					
Iritis ... ..	2	14	...	16	3
Glaucoma ... ..	1	1	...	2	1
Hypopyon ... ..					
Lens—					
Cataract ... ..	5	9	1	14	5
Eyelids—					
Entropion ... ..	...	1	...	1	
Other Eye Diseases ... ..	38	51	4	89	43
EAR.					
Inflammation ... ..	...	15	1	15	
Other Ear Diseases ... ..	1	16	...	17	
NOSE.					
Inflammation ... ..	...				
Other Nose Diseases ... ..	...	8	...	8	
CIRCULATORY SYSTEM.					
Membranes—					
Pericarditis... ..					
Endocarditis ... ..					
Valvular Diseases ... ..	6	51	27	57	1
Muscular Substance—					
Hypertrophy ... ..					
Dilatation .... ..	...	1	...	1	
Other Diseases of the System ... ..	...	19	4	19	1
RESPIRATORY SYSTEM.					
Larynx—					
Laryngitis ... ..	1	7	...	8	1
<i>Carried forward</i> ...	858	8,317	1,165	9,175	898

\* *i.e.*, the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.



Diseases.	* Remaining in Hospital at end of 1904.	Yearly Total.		† Total Cases Treated	‡ Remaining in Hospital at end of 1905.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	858	8,317	1,165	9,175	898
LOCAL DISEASES—( <i>cont.</i> )					
RESPIRATORY SYSTEM—( <i>cont.</i> )					
Bronchi—					
Bronchitis ... ..	10	262	3	272	8
Asthma ... ..	2	56	1	58	8
Lung—					
Congestion ... ..					
Hæmoptysis ... ..	...	2	...	2	
Pneumonia ... ..	7	155	67	162	5
Gangrene ... ..	...	2	2	2	
Phthisis ... ..	17	355	188	372	16
Emphysema ... ..	...	4	1	4	
Pleura—					
Pleurisy ... ..	1	55	7	56	
Empyema ... ..	2	10	7	12	
Other Diseases of the System ... ..	1	130	10	131	
DIGESTIVE SYSTEM.					
Mouth—					
Stomatitis ... ..	1	8	1	9	
Dental Periostium—					
Gum-boil ... ..	...	4	...	4	
Fauces—					
Tonsillitis ... ..	...	16	...	16	
Stomach—					
Gastritis ... ..	2	25	...	27	2
Dyspepsia ... ..	...	109	...	109	
Intestines—					
Enteritis ... ..	...	2	1	2	
Sprue ... ..	...	18	3	18	1
Hernia ... ..	2	19	2	21	
Constipation ... ..	2	98	...	100	4
Diarrhœa ... ..	27	565	167	592	27
<i>Carried forward</i> ...	932	10,212	1,625	11,144	969

\* *i.e.*, the year previous to that for which the Return is made.

† "Total cases treated" will, of course, include those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1904.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1905.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	932	10,212	1,625	11,144	969
LOCAL DISEASES—(cont.)					
DIGESTIVE SYSTEM—(cont.)					
Rectum and Anus—					
Hemorrhoids ...	1	61	1	62	2
Liver—					
Hepatitis ...	1	3	...	4	...
Abscess Liver ...	...	3	1	3	...
Cirrhosis ...	16	142	72	158	6
Congestion Liver ...	...	8	3	8	...
Jaundice ...	...	14	6	14	...
Peritoneum—					
Peritonitis ...	...	11	8	11	...
Ascites ...	...	16	4	16	1
Other Diseases of the System ...	3	137	15	140	4
LYMPHATIC SYSTEM.					
Spleen—					
Splenitis ...	3	68	2	71	3
Bubo ...	11	150	...	161	5
Lymphangitis ...	...	7	...	7	...
Elephantiasis ...	...	1	...	1	...
Other Diseases of the System ...	1	12	...	13	1
URINARY SYSTEM.					
Kidney—					
Acute Nephritis ...	1	11	2	12	1
Bright's Disease ...	11	120	36	131	9
Hæmaturia ...	...	5	...	5	1
Chyluria ...	...	...	...	...	...
Bladder—					
Cystitis ...	1	8	1	9	...
Calculus ...	1	9	3	10	1
Other Diseases of the System ...	...	19	1	19	1
<i>Carried forward</i> ...	982	11,017	1,780	11,999	1,004

\* *i.e.*, the year previous to that for which the Return is made.

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Diseases.	* Remaining in Hospital at end of 1904.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1905.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	982	11,017	1,780	11,999	1,004
LOCAL DISEASES—( <i>cont.</i> )					
GENERATIVE SYSTEM.					
Urethra—					
Stricture ... ..	1	21	...	22	1
Prepuce—					
Phimosis ... ..	1	30	...	31	1
Paraphimosis ... ..	1	11	...	12	2
Penis—					
Soft Chancre ... ..	15	186	...	201	9
Scrotum—					
Sloughing Scrotum ... ..	...	3	...	3	
Tunica Vaginalis—					
Hydrocele ... ..	2	18	1	20	
Testicle—					
Orchitis ... ..	...	11	...	11	
Epididymitis ... ..	...	18	...	18	
Other Diseases (male) ... ..	3	33	1	36	
Uterus—					
Metritis ... ..	...	1	...	1	
Uterine Displacements ... ..	...				
Amenorrhœa ... ..	...				
Dysmenorrhœa ... ..	1	3	...	4	
Menorrhagia ... ..	...				
Leucorrhœa ... ..	...				
Other Diseases (female) ... ..	...	73	2	73	5
ORGANS OF LOCOMOTION.					
Bones—					
Ostitis ... ..	1	11	...	12	2
Periostitis ... ..	...	1	...	1	
Caries ... ..	4	16	2	20	4
Necrosis ... ..	2	26	5	28	5
Joints—					
Synovitis ... ..	1	38	...	39	1
Ankylosis ... ..	...	2	...	2	
<i>Carried forward</i> ...	1,014	11,519	1,791	12,533	1,034

\* *i.e.*, the year previous to that for which the Return is made.

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‡ The figures in this column to be carried on to the next year's Return.

Diseases.	* Remaining in Hospital at end of 1904.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1905.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	1,014	11,519	1,791	12,533	1,034
LOCAL DISEASES—(cont.)					
ORGANS OF LOCOMOTION—(cont.)					
Spine—					
Caries Spine ... ..	...	4	...	4	
Curvature Spine ... ..	...	2	1	2	
Muscles—					
Myalgia ... ..	...	4	...	4	
Other Diseases ... ..	3	42	3	45	2
CONNECTIVE TISSUE.					
Cellulitis ... ..	6	26	2	32	7
Abscess ... ..	24	305	12	329	11
Gangrene ... ..	...	7	2	7	
Other Disease... ..	...				
SKIN.					
Eczema ... ..	1	103	...	104	3
Psoriasis ... ..	...	6	...	6	
Herpes... ..	...	10	...	10	
Do. Zoster... ..	...	2	...	2	
Ulcer ... ..	131	1,590	6	1,721	112
Boil ... ..	...	29	...	29	
Carbuncle ... ..	...	23	1	23	1
Onychia ... ..	...	3	...	3	
Whitlow ... ..	...	8	...	8	
Other Diseases ... ..	7	142	...	149	6
GENERAL INJURIES.					
Burns and Scalds ... ..	1	7	8	8	
Sunstroke ... ..	...	2	...	2	
Multiple Injury ... ..	3	15	2	18	2
Starvation ... ..	...	1	1	1	
Shock ... ..					
<i>Carried forward</i> ...	1,190	13,850	1,829	15,040	1,178

\* i.e., the year previous to that for which the Return is made.  
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‡ The figures in this column to be carried on to the next year’s Return.

Diseases.	* Remaining in Hospital at end of 1904.	Yearly Total.		† Total Cases Treated.	‡ Remaining in Hospital at end of 1905.
		Admis- sions.	Deaths.		
<i>Brought forward</i> ...	1,190	13,850	1,829	15,040	1,178
LOCAL INJURIES.					
Burns and Scalds ... ..	3	40	...	43	...
Wounds ... ..	21	474	6	495	23
Sprains ... ..	...	38	...	38	1
Dislocations ... ..	2	7	...	9	1
Fractures, simple ... ..	5	79	5	84	5
Do. compound... ..	4	33	11	37	3
Other Injuries ... ..	7	143	5	150	2
Surgical Operations ... ..	6	547	37	553	26
Malformations ... ..	11	11	1	22	13
POISONS.					
Mercury ... ..	...				
Alcohol ... ..	...	1	...	1	
Opium... ..	...	14	5	14	1
Other Poisons... ..	...	5	...	5	
Poisoned Wounds ... ..	2	56	4	58	4
PARASITES.					
Distomum Sinense ... ..					
Tœnia Solium... ..	...	5	...	5	
Ascaris Lumbricoides ... ..	1	30	...	31	
Anchylostomum Duodenale ... ..	...	32	7	32	
Oxyuris Vermicularis ... ..	...	1	...	1	
Filaria Medinensis ... ..	...	8	...	8	
Acarus Scabiei ... ..	8	174	...	182	9
Tinea Circinata ... ..	...	7	...	7	
Other Parasites ... ..	1	9	...	10	
<hr/>					
Malingering ... ..	...	33	...	33	
<hr/>					
Under observation ... ..	2	151	2	153	6
TOTAL ...	1,263	15,748	1,912	17,011	1,272

\* i.e., the year previous to that for which the Return is made.

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# FEDERATED MALAY STATES.

## STATE OF SELANGOR.

### ANNUAL REPORT ON THE MEDICAL DEPARTMENT FOR THE YEAR 1905.

#### POPULATION.

The estimated population of the State :

On 31st December, 1904, was ...	...	...	...	...	234,404
„ „ 1905 „	...	...	...	...	252,502
The number of births registered was ...	...	...	...	...	2,857
And the number of deaths ...	...	...	...	...	6,756
The approximate number of emigrants was ...	...	...	...	...	49,148
„ „ immigrants „	...	...	...	...	71,145
The birth-rate per mille per annum was ...	...	...	...	...	11.314
And the death-rate ...	...	...	...	...	26.756

#### METEOROLOGICAL CONDITION OF SEASONS.

The rainfall registered at the General Hospital, Kuala Lumpur, was 98.96 inches as against 108.01 in the previous year.

The mean temperature taken at Kuala Lumpur was 80°.3 F. as against 79°.8 F. in 1904. The mean maximum temperature was 89°.9 F. and the minimum 71°.1 F.

#### NUMBER OF PATIENTS TREATED IN ALL HOSPITALS.

The number of patients treated with number of deaths and case mortality during the last five years is shown in the following table :

Year.				No. treated.			No. of deaths.			Percentage.
1901	...	...	...	21,351	...	2,797	...	...	13.10	
1902	...	...	...	18,173	...	2,087	...	...	11.48	
1903	...	...	...	14,425	...	1,872	...	...	12.97	
1904	...	...	...	14,319	...	1,534	...	...	10.71	
1905	...	...	...	16,382	...	1,856	...	...	11.73	

It will be seen that the number of in-patients has been largely increased, 16,382 persons having been treated as against 14,319 during the previous year.

The number of deaths has increased in proportion with the large number of patients treated. The death-rate of 11.73 per cent. for all hospitals is, I consider, very low, more especially as a large majority of the patients came in an advanced state of disease when little could be done for them.

#### PREVAILING DISEASES.

The following diseases were responsible for the largest amount of sickness and mortality :

Disease.	No. treated.		No. of deaths.		Percentage of deaths.	
	1904.	1905.	1904.	1905.	1904.	1905.
Beri-beri ...	2,083	2,215	326	330	15.65	14.89
Malarial fever ...	2,008	2,109	114	173	5.67	8.20
Pulmonary disease ...	1,014	1,078	305	284	30.07	26.34
Dysentery ...	599	958	183	303	30.55	31.62
Venereal disease ...	751	660	12	10	1.59	1.51
Diarrhœa ...	541	592	145	168	26.80	28.37

## BERI-BERI.

Two thousand two hundred and fifteen cases of this disease were treated with 330 deaths, as against 2,083 with 326 deaths during the previous year. The number of cases of this disease treated in Selangor, with deaths and death-rate, during the last five years was as follows :

Year.					Cases treated.			Deaths.			Case mortality.
1901	...	...	...	...	2,065	...	...	311	...	...	15.06
1902	...	...	...	...	2,673	...	...	325	...	...	12.15
1903	...	...	...	...	1,912	...	...	351	...	...	18.35
1904	...	...	...	...	2,083	...	...	326	...	...	15.65
1905	...	...	...	...	2,215	...	...	330	...	...	14.89

It will be seen that the number of cases treated and the number of deaths caused by this disease has not varied to any extent during the last five years, although the figures compare very favourably with those for 1895, 1896 and 1897, which were as follows :

Year.					Cases treated.			Deaths.			Case mortality.
1895	...	...	...	...	3,781	...	...	711	...	...	18.8
1896	...	...	...	...	5,518	...	...	990	...	...	17.9
1897	...	...	...	...	4,884	...	...	1,066	...	...	21.8

It is of interest to note that during the five years 1896-1900 there were 3,023 deaths from beri-beri in the Selangor hospitals, whereas during the years 1901-1905 only 1,643 deaths in hospitals were due to this disease. This is satisfactory in view of the large increase in the Chinese population during the last 10 years.

There has been no special outbreak of the disease in the State with the exception of the Lunatic Asylum, among the inmates of which a large number of cases occurred with a heavy death-rate. This will be especially referred to in connection with the report on the asylum.

Ninety-seven cases of beri-beri occurred in the Pudooh Gaol with two deaths. This will be referred to in the report on the gaol.

## MALARIAL FEVERS.

Two thousand one hundred and nine cases of this disease were treated in the various hospitals with 173 deaths as against 2,008 with 114 deaths in 1904. The increase in case mortality from 5.67 per cent. to 8.20 per cent. is rather large, but I can give no probable reason to account for it.

The anti-malarial measures carried out at Port Swettenham and Klang have resulted in the inhabitants of those stations enjoying an almost complete immunity from malaria. This will be referred to in detail in Dr. Watson's report on the Coast Districts.

## BOWEL COMPLAINTS.

There has been an increase in the number of cases admitted to the hospitals with bowel complaints. This is shown by the following figures :

Year.							Cases treated.			Deaths.
1901	...	...	...	...	...	...	3,826	...	...	1,143
1902	...	...	...	...	...	...	2,488	...	...	848
1903	...	...	...	...	...	...	1,712	...	...	588
1904	...	...	...	...	...	...	1,140	...	...	328
1905	...	...	...	...	...	...	1,550	...	...	471

This increase has occurred mainly under the heading of dysentery, 958 cases of which disease with 303 deaths have been under treatment as compared to 599 with 183 deaths during the previous year.

## PULMONARY DISEASE.

One thousand and seventy-eight cases of disease of the pulmonary system came under treatment with 284 deaths, a slight improvement on the results for the previous year when there were 305 fatal cases out of a total of 1,014 treated.

## VENEREAL DISEASE.

Statistics of this disease during the last four years are as follows :

Year.							Cases.			Deaths.
1902	...	...	...	...	...	...	844	...	...	7
1903	...	...	...	...	...	...	847	...	...	16
1904	...	...	...	...	...	...	751	...	...	12
1905	...	...	...	...	...	...	660	...	...	10

It is probable that some cases of venereal disease have been registered under diseases of the glandular system. The decrease in the number of cases coming under treatment and the small mortality is encouraging, considering the large increase in the population of the towns.



## ZYMOTIC DISEASE.

PLAGUE.—Two cases of this disease occurred during the year: one in the Batu Road in a 'rikisha depôt—he was admitted to the General Hospital and died the following day. The source of infection was not discovered and there was no spread of the disease.

The other case was that of a Chinaman, admitted to the District Hospital with swollen glands and slight fever. The case was diagnosed by the Bacteriologist as plague and the man was treated in the Infectious Disease Hospital, he made a good recovery and finally absconded from hospital. This is the first case in which plague has not proved fatal in this country.

SMALL-POX.—Two coolies recently discharged from the quarantine station at Penang developed small-pox immediately after arriving in Selangor. They were promptly isolated and all contacts were vaccinated. One of the cases proved fatal, but there was no further spread of the disease.

## VACCINATION.

The number of persons vaccinated with percentage of success was as follows:

Year.	No. Vaccinated.	Successful.	Percentage of success.
1901	2,297	2,074	89.89
1902	2,774	2,748	99.06
1903	3,236	3,176	98.14
1904	2,722	2,663	96.73
1905	3,659	3,360	91.82

Saigon buffalo lymph was used throughout the year and proved very successful.

## OUT-PATIENTS.

The number of persons applying for out-patient relief increases steadily:

Year.	Out-patients.
1903	36,174
1904	38,774
1905	41,558

Dr. A. J. McClosky, Surgeon in charge of the District Hospital and Leper Asylum, reports as follows on those institutions:

## DISTRICT HOSPITAL.

“ADMISSIONS.—Four thousand eight hundred and twenty patients were admitted during the year, which, with 362 remaining at the end of the previous year, gives a total treated of 5,182. The admissions exceeded those of last year by 851. The following table shows the number of patients treated in the District Hospital for each of the last five years:

Year.	Total treated.
1901	5,086
1902	4,378
1903	4,330
1904	4,233
1905	5,181

It will thus be observed that the total treated in the hospital during the year under review is the largest during the last five years. The average daily number of sick was 392 against 317.62 last year.

“MORTALITY.—Eight hundred and sixteen deaths occurred during the year, representing a mortality of 15.74 per cent., against 615 deaths and a mortality of 14.52 per cent. last year. One hundred and thirty-three deaths occurred within 48 hours of admission: excluding these, the death-rate is 13.18 per cent. The following diseases were responsible for most of the deaths:

Disease.	1905.		1904.	
	No. of deaths.	Percentage.	No. of deaths.	Percentage.
Dysentery	198	39.44	121	42.16
Beri-beri	178	16.57	146	16.83
Tuberculosis	100	62.89	114	65.51
Cirr. of liver	55	47.41	38	42.69
Malaria	51	10.79	27	9.54
Pneumonia	35	61.04	21	50.00

## SPECIAL DISEASES.

"BERI-BERI.—The admissions from this disease exceeded those of last year by 174, but the death-rate is the lowest during the last five years. The following table shows the admissions and death-rate from beri-beri for the last five years :

Year.							Admissions.	Death-rate.	
1901 ...	...	...	...	...	...	...	599	...	21.55
1902 ...	...	...	...	...	...	...	761	...	18.84
1903 ...	...	...	...	...	...	...	801	...	21.30
1904 ...	...	...	...	...	...	...	771	...	16.83
1905 ...	...	...	...	...	...	...	949	...	16.57

Fifty-two beri-berics were transferred to Jeram Hospital during the year.

"The following experiment may be interesting. From 10th May to the end of the year I placed all the beri-beri patients in Ward XI on barley and bread instead of rice—no rice being allowed; and used the beri-beri patients in Ward V (who were getting rice) as controls. The following table shows the result, which seems to favour the "rice excluded" diet :

	No. of cases.	Dis-charged.	Trans-ferred.	Ab-sconded.	Died.	Remain-ing.	Death-rate.
Ward XI, no rice ...	133	77	8	7	9	32	6.76
Ward V, Rangoon rice ...	158	83	10	7	21	37	13.27

The cases were not specially selected, but were sent alternately to one or the other ward as they came in. Unfortunately, I overlooked the fact that the two sets of cases were being treated with different drugs, chlorine mixture in Ward XI and mercury in Ward V, and therefore it cannot be said that the presence and absence of rice was the only condition in which the two sets of patients differed. I am continuing the experiment this year, applying the same medical treatment to both sets of patients.

"DYSENTERY.—The admissions from this disease were markedly in excess of those of last year, 491 against 275 and the total treated 502 against 287 last year. The mortality was 39.44 per cent. against 42.16 per cent. last year. Besides the number of deaths contributing to the above mortality, dysentery complicated 42 other fatal cases and contributed largely to their fatal termination. Twenty-four deaths occurred within 48 hours of admission. Two cases were complicated with abscess of liver.

"TUBERCULOSIS.—The return shows 159 cases treated and 100 deaths; but this disease complicated and was the immediate cause of death in 11 suffering from other diseases. The mortality therefore is 65.29 per cent. Thirteen deaths occurred within 48 hours of admission. The following table shows the number of cases treated and deaths for each of the last four years :

	1905.	1904.	1903.	1902.
Number of cases treated ...	170	181	156	156
Number of deaths ...	111	121	105	103

The districts from which most of the cases came were as follows :

Kuala Lumpur ...	46	Rawang ...	9
Ampang ...	28	Kepong ...	9
Salak ...	10	Sungei Besi ...	9

"MALARIA.—Three hundred and ninty-eight cases were treated during the year, an increase of 115 over the previous year. The following table shows the type and the number of cases in each type for the last four years :

Type.	1905.	1904.	1903.	1902.
Malignant ...	279	193	136	81
Quartan ...	53	55	79	55
Benign tertian ...	56	35	26	43
Mixed types ...	9	...	12	...
Total ...	397	283	253	179

The mixed types were malignant and benign tertian	...	...	7
Malignant and quartan ...	...	...	2

It will be observed that the order of prevalence between the quartan and benign tertian types is reversed this year.

"The return shows 51 deaths from this disease, but nine of those deaths were directly due to other concomitant diseases and accidents such as pneumonia five, dysentery one, tuberculosis one, suicidal hanging one and opium poisoning one. Forty-two deaths were therefore directly attributable to this disease, giving a death-rate of 10.79 per cent. Of these 42 deaths, 26 occurred within 48 hours of admission, so that, excluding these, the death-rate is 4.3 per cent. Forty-eight out of the 51 deaths shown in the return were from the malignant type.



"The districts from which most of the cases came were as follows: Ulu Gombak 136, Kuala Lumpur 89, Ampang 35, Gombak 22. A large number of Tamil coolies working on the Damansara road were admitted with malaria during the year.

"ENTERIC FEVER.—The return shows 30 cases treated with eight deaths, but this disease formed a complication of two other fatal diseases, so that the total was 32 cases and 10 deaths. The number of cases treated showed a marked increase over that of last year.

"ABSCESS OF LIVER.—Two cases of this disease came under observation in the post-mortem room. In both the abscesses were multiple and complicated dysentery.

"PNEUMONIA.—The return shows 57 cases treated with 35 deaths; but this disease complicated 13 other fatal diseases, thus giving a total of 70 cases and 48 deaths—a marked increase over last year. Seventeen of the deaths occurred within 48 hours of admission.

"CIRRHOSIS OF LIVER.—One hundred and sixteen cases were treated with 55 deaths; a considerable increase over the previous year.

"MALIGNANT DISEASE.—The following malignant diseases came under observation during the year:

Sarcoma of neck	...	...	...	...	...	...	...	2
Cancer of liver	...	...	...	...	...	...	...	5
Cancer of stomach	...	...	...	...	...	...	...	2

"SYPHILIS.—Of this disease 94 cases were treated this year against 134 in 1904.

"The following major operations were performed during the year:

Nature of Operation.				Number.		Recovery.		Deaths.	
Herniotomy	...	...	...	1	...	1	...	nil	
Castration	...	...	...	7	...	7	...	"	
Laternal lithotomy	...	...	...	4	...	4	...	"	
External urithrotomy	...	...	...	6	...	6	...	"	
Amputation of leg	...	...	...	3	...	2	...	1	
Amputation of thigh	...	...	...	2	...	nil	...	2	
Amputation of forearm	...	...	...	2	...	2	...	nil	
Removal of lens for cataract	...	...	...	3	...	3	...	"	

"POST-MORTEM EXAMINATIONS.—Three hundred and sixty-seven were performed at the District Hospital and 71 at the Institute for Medical Research by the Director and his staff. One was of particular interest—viz., a case of general septic peritonitis for which no cause was apparent until Dr. Daniels, Director of the Institute for Medical Research, suggested and demonstrated embolism of the superior mesenteric artery.

"OUT-DOOR PATIENTS.—Four thousand and thirty were treated, consisting of 3,177 new cases and 853 repetitions. This is an increase of 1,517 over the previous year.

"INFECTIOUS DISEASE WARD.—Two cases were treated in this ward during the year, one of small-pox and one of bubonic plague. Both recovered. The small-pox case was a Tamil cooly from Batu Caves Estate. This patient arrived in the State in the incubative stage. The case of bubonic plague was a Chinaman who worked in a mine at Gombak. He had been in the State for some time and was evidently a sporadic case.

"BUILDINGS.—Wards I, III, IV and V were re-roofed and painted during the year. Wards XI and XII were also painted.

#### LEPER HOSPITAL.

"Ninety lepers were admitted during the year against 129 last year, and the total treated was 224 against 253 the previous year. Of the admissions four were Tamils, one Malay and the rest Chinese. The 90 admissions do not all represent new cases as 17 were re-admissions. Compared with last year both the new cases and re-admissions are less. Five cases were admitted from Negri Sembilan during the year. Only 28 absconded during the year as against 61 last year; this explains the small number of re-admissions.

"DEATHS.—Forty-five deaths occurred during the year, giving a death-rate of 20.08 per cent. The following table shows the comparative figures for the last four years:

Year.	Admitted.			Total treated.		Absconded.		Died.		Mortality.	
1902	...	107	...	232	...	49	...	54	...	23.27 per cent.	
1903	...	112	...	240	...	43	...	70	...	29.16 „	
1904	...	129	...	253	...	61	...	47	...	18.57 „	
1905	...	90	...	224	...	28	...	45	...	20.08 „	

There were thus 32 less admissions and correspondingly 33 less abscondings than the previous year. The daily average number of sick was 147.69 as against 133.37 last year. Discipline was well maintained during the year."



## THE PUDOH GAOL.

The average gaol strength was 608.42 against 550 in 1904 and 448 in 1903. The gaol has therefore been slightly overcrowded during the year. The total number of prisoners treated in the infirmary was 300 with 14 deaths as against 354 with 11 deaths in the previous year. The general health of the prisoners has been good throughout the year.

Ninety-six prisoners were admitted to the infirmary with beri-beri, and two deaths occurred from this disease. During the month of September and October a somewhat large number of prisoners were attacked and it was feared that an outbreak similar to that of 1895 and 1902 might occur. The number of cases decreased rapidly, however, and by the end of the year the gaol was practically free from beri-beri. For the greater part of the year the beri-beri patients and convalescents were kept in a separate building from the other patients and away from the other prisoners.

## THE EUROPEAN HOSPITAL.

The staff of this hospital has been fully occupied during the year and the arrangements made for the care of patients have been taken every advantage of both by the Government officials and the public. The ambulance, which is horsed and looked after under contract, has worked well and has been invaluable. Seventy-eight patients were treated during the year with one death.

Dr. Fletcher, District Surgeon in charge of the General Hospital and Lunatic Asylum, reports as follows on those institutions:

## GENERAL HOSPITAL.

"The number of patients treated in the General Hospital during the year 1905 was 3,120. The numbers for the last four years are as follows:

Year.									Total treated.
1902	...	...	...	...	...	...	...	...	2,170
1903	...	...	...	...	...	...	...	...	2,244
1904	...	...	...	...	...	...	...	...	2,464
1905	...	...	...	...	...	...	...	...	3,120

These numbers include operation cases which are entered twice, once under the heading of the disease for which they were admitted and again under the heading surgical operations. The corrected figures for 1904 and 1905 are 2,242 and 2,799, respectively. The increase in the admissions last year was chiefly due to the large number of Tamils who came into hospital. A special Tamil diet is now provided in which mutton is substituted for beef, and Bengal rice supplied instead of Siamese.

"Two hundred and ninety-six Malays were admitted. It is very difficult to get them to come into hospital. This is not on account of any difficulty with regard to their food or religious custom. The Pathan, who is a much stricter Mohamedan, readily comes into hospital when he is sick. People of other nationalities in the F.M.S. are immigrants and have left their families at home. The Malay is eminently a family man and objects to come into hospital unless he can bring his wife and children with him.

"Seven hundred and forty-six Sikhs and Bengalese were treated in 1905. They appreciate the fresh milk supplied to them here.

"Only 437 Chinese were treated in hospital during the year, less than one sixth of the total admissions. The mortality amongst them was 10.7 per cent., whilst it was only 3.76 for the whole hospital. The Chinaman, as a rule, comes into hospital as a last resource, after he has been ill for a long time and has probably spent all his money. He eventually finds his way to the pauper hospital unless he has friends who will pay his hospital fees.

"The more fatal diseases were:

Disease.									Number of Deaths.
Dysentery	...	...	...	...	...	...	...	...	16
Phthisis	...	...	...	...	...	...	...	...	10
Enteric	...	...	...	...	...	...	...	...	9
Malaria	...	...	...	...	...	...	...	...	8
Beri-beri	...	...	...	...	...	...	...	...	8

The deaths from beri-beri, dysentery and phthisis are less than in the previous year. In all the cases of enteric the disease was, I believe, contracted within town limits:

In 1903 there were 6 cases with 2 deaths									
In 1904	„	„	14	„	„	4	„	„	„
In 1905	„	„	38	„	„	9	„	„	„

If the number of cases admitted to the General Hospital may be taken as an index of the number occurring in the town, it is evident that there is a steady increase of this disease, which, with a growing population and a limited water supply, may at any time assume serious proportions.

“**MALARIA.**—Two hundred and thirty-eight cases of malaria were admitted to the General Hospital during the year, and there were eight deaths from this disease. The disease was commonly of the malignant tertian type; the 238 cases being made up as follows:

Malignant tertian and mixed	...	...	...	...	...	191
Benign tertian	...	...	...	...	...	40
Quartan	...	...	...	...	...	7

More than half the cases of malaria came from districts outside Kuala Lumpur, 41 being admitted from Ulu Gombak alone. In the town, judging from the admissions to the General Hospital, Batu Lima Blas and Batu Road (including Gombak Lane) appear to be specially infected with malaria. Both districts contain swamp areas.

“**UNDIAGNOSED FEVERS.**—Seventy cases of fever in which the cause of the disease were not ascertained were admitted to hospital. Many of them were doubtless malaria, but there yet remains a large number which must be placed among the ‘unclassified fevers of the tropics.’

“**DENGUE.**—During the past year there has been an outbreak of dengue fever. Two hundred and forty-five patients were admitted suffering from this disease. There were no deaths. The disease commenced at the end of 1904 and sporadic cases still occur. Seventy-three cases were admitted from the Police Dépôt and 98 from the Police Barracks. The disease occurred in two definite forms:

“1. An exanthematous type which resembled Manson’s classical description, with the exception that in only two or three cases did the temperature rise with the appearance of the secondary rash.

“2. An influenzal form with which there was no rash and in which there were no arthritic pains or swellings appearing at the end of the first week. In one case (a young Sikh) a copious hæmorrhage from the stomach occurred, but ceased as suddenly as it began, and the patient was quite well in a few days.

“One case of plague, which proved fatal, was admitted to the hospital from Batu Road. No further cases occurred either in the neighbourhood from whence this patient came or amongst the patients in the ward to which he was admitted.

“**FEMALE WARD.**—Four hundred and eleven patients were treated in the Female Ward during the past year, an increase of 98 on 1904:

Daily average for 1905	...	...	...	...	...	23.7
Daily average for 1904	...	...	...	...	...	18.6

The percentage of deaths to the total number treated was 9.24—an improvement on the death-rate of 13.73 for the previous year. The nationalities affording the largest number of admissions were: 181 Tamils, 101 Japanese, and 76 Chinese. More accommodation is badly needed.

#### POLICE DÉPÔT.

“Three hundred and fifty-five cases were admitted to hospital from the Police Dépôt with one death, which resulted from enteric fever. Three cases of this disease occurred during the year, and it seems reasonable to suppose that the cause was infected milk. The diseases causing the largest number of admissions were:

Disease.	Number.
Respiratory diseases	80
Dengue	73
Malaria	36
Dysentery	20
Beri-beri	16

The Sikhs and Pathans were, as usual, the chief sufferers from respiratory diseases.

“All the 16 beri-beri patients were Malays. The Malays sleep in a large room separated only by a partition from the Pathans, amongst whom no cases of beri-beri have occurred.

“The conditions under which the police of different nationalities live at the dépôt are practically identical except as regards food. Either the Indians enjoy an extraordinary racial immunity which is without parallel in the etiology of any other known disease, or the cause of the disease is to be found in the diet.

“Of the 36 cases of malaria few were ‘first attacks,’ and probably the disease in most cases was contracted before the patient came to Kuala Lumpur.

“The late Director of the Institute for Medical Research, however, told me that the pond below the dépôt was a favourite breeding place of anopheles.



## SELANGOR POLICE.

“Six hundred and forty patients were admitted during the year with four deaths, three from enteric and one from sprue. The diseases causing the largest number of admissions were:

Disease.	Number.
Respiratory diseases ... ..	132
Dysentery ... ..	47
Malaria ... ..	49
Beri-beri ... ..	16

The beri-beri again occurred exclusively amongst the consumers of uncured rice.

## OUT-PATIENTS.

Dispensary ... ..	12,081 visits
Surgical Ward ... ..	1,642 „
Police Ward ... ..	2,555 „
Total ... ..	16,278 „

## LUNATIC ASYLUM.

“The number of patients treated in the Asylum during the year was 219 as compared with 193 in 1904 and 180 in 1903. The number of deaths was 55, a death-rate of 25.11; whereas in 1904 it was only 17.09. The increase in the death-rate was due to beri-beri. In 1904 there were 12 cases with 3 deaths, in 1905 there were 94 cases with 27 deaths. That is to say, that more than 42 out of every hundred lunatics treated in the Asylum during the year were attacked with beri-beri. The case mortality was high, being 28.7 per cent., whereas in the District Hospital it was only 16.57. In 1904 the percentage of deaths, excluding beri-beri cases, was 15.5. In 1905, excluding beri-beri cases, it was 12.8. In 1903 there were 31 deaths from dysentery. In 1904 there were 19 deaths. In 1905 only 8 deaths from this disease.

“From this it will be seen that apart from beri-beri the health of the lunatics was better than in 1904, and that the outbreak of beri-beri was not due to any deterioration of the sanitary condition of the Lunatic Asylum or to the general ill-health of the patients.

“Only a very small percentage of the 94 patients who developed beri-beri showed symptoms of the disease within two months of their admission. In by far the greater number it developed after the patients had been in the asylum longer than three months. One is therefore justified in concluding that the disease was contracted in the asylum.

“All patients were fed on Rangoon rice until 12th December. Tamils were attacked with beri-beri, and it is worthy of notice that the only Tamil who was admitted to the General Hospital during the year suffering from beri-beri had also been in the habit of eating Rangoon rice for some months.

“In September it was noticed that the Lunatic Asylum was infected with bugs, and at the suggestion of the Director of the Institute for Medical Research some of these were collected and put on monkeys, mice and guinea pigs. Lice from the head of a beri-beri patient were used in the same way. Later the Bacteriologist made an emulsion of some bugs taken from the Lunatic Asylum and injected it beneath the skin of an orang utan. None of these animals showed any signs of beri-beri. The bugs in the asylum were finally got rid of by means of perchloride of mercury, tuba root and boiling water.

“Since 3rd November, 1905, all patients have been transferred to the District Hospital as soon as they showed any signs of beri-beri, as it was considered that this would be beneficial to those infected with the disease and also might possibly prevent the spread of it within the institution.

“In view of Dr. Braddon’s work it was also decided, with the approval of Government, to place half the lunatics on a diet of Bengal rice. This experiment was commenced in December and will be reported on at the end of the current year.”

## COAST DISTRICT HOSPITALS.

Dr. Watson, Surgeon in charge of the Coast Districts, reports as follows on the work done during the year:

## KLANG HOSPITAL.

“There has been a large increase in the number of in-door patients and a considerable decrease in those treated as out-patients. The mortality has increased from 10.11 to 11.09:



Year.	In-door.			Out-door.
	Total treated.	Deaths.	Mortality.	Total treated.
1901 ... ..	1,822	232	12.73	4,611
1902 ... ..	1,406	153	10.88	3,795
1903 ... ..	1,218	124	10.18	3,906
1904 ... ..	1,394	141	10.11	5,140
1905 ... ..	1,785	198	11.09	4,307

“The decrease is striking in view of the extension of agriculture in the district, and is general among all nationalities except Europeans, Eurasians and Tamils. The Tamil estate population increased practically 100 per cent. during the year, and the number of Tamils treated rose from 1,610 to 1,803, so that the health of the district as reflected in the hospital statistics must be considered very satisfactory when it is compared with the experience of so many countries in opening up new land.

#### PREVALENT DISEASES.

“The following table shows the more prevalent diseases with their respective mortality :

Disease.	No. Treated.		No. of Deaths.		Mortality.
Bowel diseases ... ..	174	...	56	...	32.18
Malaria ... ..	400	...	47	...	11.8
Pneumonia ... ..	40	...	14	...	35.0
Phthisis ... ..	33	...	10	...	30.3
Ulcer ... ..	261	...	5	...	1.91
Beri-beri ... ..	22	...	4	...	18.18

“There is a considerable increase in the number of cases of bowel diseases, but nothing of an epidemic nature occurred. As the terminal complication of all weakening diseases, diarrhoea and dysentery will always fill a considerable place in returns of tropical hospitals.

#### THE HOSPITAL.

“The great increase in the number of in-door patients caused considerable overcrowding in the wards, especially during the latter part of the year. To meet this, the Indian Immigrant Depôt was put at the disposal of the hospital, but the arrangement was not very satisfactory. The hospital staff was increased at once, and a new ward for cases of diarrhoea and dysentery was sanctioned and is now in progress. The Malay ward, practically the last building of the original hospital, is in a state of advanced decay, and will have to be replaced by a new ward.

“A very considerable amount of progress in laying out the grounds was made, but with so many alterations and extensions and the necessity of making sites for new buildings, the grounds leave much to be desired from an artistic point of view.

#### INFECTIOUS DISEASES.

“Only one case of small-pox was treated. It was imported from Penang and was isolated in the estate on which it concurred.

#### JUGRA HOSPITAL.

“The number of patients treated is shown in the following table :

Year.	In-door.			Out-door.	Malaria.	
	Total treated.	Deaths.	Mortality.	Total treated.	Number.	Percentage of total admissions.
1901 ... ..	434	46	10.46	1,204	915	55.8
1902 ... ..	267	21	7.63	567	279	33.4
1903 ... ..	206	12	5.82	1,066	328	26.09
1904 ... ..	192	10	5.20	1,451	322	19.7
1905 ... ..	345	15	4.34	1,446	445	24.7

With the opening up of new estates the number of Tamils admitted to hospital has increased considerably.

KUALA SELANGOR.

“ The work done is shown below :

Year.						In-door.		Out-door.
						Total treated.	Mortality.	Total treated.
1901	...	...	...	...	...	221	3.16	1,317
1902	...	...	...	...	...	158	8.22	1,770
1903	...	...	...	...	...	168	4.16	1,340
1904	...	...	...	...	...	184	4.62	1,045
1905	...	...	...	...	...	281	5.33	1,542

The increase has been due to the increase in the Tamil community. There is still the same difficulty of getting Malays to enter the hospital, but proposals are being made which may remove some of their prejudices.

JERAM.

“ During 1905 orders were given that no cases of malaria were to be admitted, in order to see if their exclusion would have any effect on the amount of malaria among the beri-beri patients.

“ The following shows the numbers treated :

	1901.	1902.	1903.	1904.	1905.
Beri-beri ... ..	138 ...	112 ...	114 ...	132 ...	129
Malaria ... ..	27 ...	31 ...	29 ...	64	—
Other diseases ...	46 ...	49 ...	52 ...	100 ...	19
Total death-rate	15.11 ...	10.41 ...	9.23 ...	10.81 ...	8.10
Beri-beri, total death-rate ...	21.69 ...	12.50 ...	10.52 ...	17.42 ...	9.23
Out-patients ...	462 ...	297 ...	336 ...	693 ...	868

“ MALARIA.—The subject of malaria has naturally received continued attention, and numerous observations on the prevalence of, and on the various methods of combating, the disease have been recorded. Drainage has clearly proved itself the most satisfactory method in dealing with the disease in a community of any type. At Klang and Port Swettenham the disease has been practically stamped out by the drainage begun in 1901, as may be seen from the following statistics. Residence of malaria cases admitted to Klang Hospital:

Residence.	1901.	1902.	1903.	1904.	1905.
Klang and Port Swettenham ... ..	610 ...	199 ...	69 ...	32 ...	23
Elsewhere ... ..	197 ...	204 ...	150 ...	266 ...	353
Total ... ..	807 ...	403 ...	219 ...	298 ...	376

Of the 23 cases in 1905, 14 were imported cases, two were 'rikisha pullers, one was a carter ; in only six was it impossible to obtain a history of importation, or possibility of incurring the disease by temporary residence outside of the town.

“ With the disappearance of malaria, the mortality of the towns has diminished, as the following figures show :

	1900.	1901.	1902.	1903.	1904.	1905.
Klang and Port Swettenham ... ..	474 ...	582 ...	144 ...	115 ...	122 ...	113
Remainder of district ... ..	306 ...	416 ...	403 ...	428 ...	490 ...	612
Total ... ..	780 ...	998 ...	547 ...	543 ...	612 ...	725

“ The percentage of children infected with malaria is regarded by many as a delicate test of the presence or absence of malaria in any district. Observations were made during the months of November and December, 1904 and 1905, and the result has been to show that malaria is non-existent among the permanent residents of Klang and Port Swettenham. Table showing percentage of children infected with malaria:



	1904.			1905.		
	Number examined.	Number infected.	Percent- age.	Number examined.	Number infected.	Percent- age.
Klang and Port Swettenham ...	260	2	.76	195	1	.51
Elsewhere in district ...	298	101	33.89	247	59	23.8

The only child found infected this year in Klang and Port Swettenham was one who contracted the disease when on a visit to Malacca.

"The improved health of Government officers is shown in the subjoined table, which sets forth the number of certificates and of days of sick leave given to Government officers suffering from malaria and resident in Klang and Port Swettenham.

	1901.	1902.	1903.	1904.	1905.
"Certificates ...	236	40	23	14	4
"Days of leave ...	1,026	198	73	71	30

The four certificates were given to an officer transferred from Jugra on account of his suffering severely from malaria. No officer has contracted malaria in Klang and Port Swettenham since 12th July, 1904. These figures show that by drainage leading to a destruction of the carrier of malaria, the disease can be completely controlled in this country. On a smaller scale work has been continued at Kuala Selangor, some ten acres have been reclaimed from the sea and other improvements made. At Jugra a drain has been run round the foot of the hill and has drained an almost continuous chain of hill-foot springs and swamps, the breeding places of anophelines. There still remain the mangrove breeding places at Jugra. Unfortunately, it will be difficult to estimate the value of the work as the number of inhabitants round the hill is small, and there are probably not more than 30 children under the age of ten. These, however, have been examined on two occasions, and the results preserved for future comparison.

"Where drainage is not possible there is possible the method of mechanically preventing mosquito bites by wire gauze. Certain observations made at Jeram were so encouraging that a proposal for an experiment on a considerable scale with mosquito netting was forwarded to and approved by Government. It was to have been carried out on the extension of the Klang Waterworks at Ayer Kuning, a notoriously unhealthy place, but as the question of extension is still under consideration the experiment has not yet been possible. I look to this method to displace the systematic use of quinine, to enable us to control malaria on engineering works and estates. The third method of dealing with malaria is that which aims at destroying with quinine the malaria germ when once it has gained access to the human body. Until the practicability of mosquito-proofing cooly lines has been demonstrated, the quinine method is the only method possible on estates and engineering works. It has the great disadvantage as compared with drainage and probably of the mosquito-proof gauze method of requiring constant personal supervision on the part of the superintendent. On a number of estates in the district various preparations and doses have been tried, and a large number of observations both microscopic and otherwise have been recorded bearing on this matter.

"Generally it may be stated, that the quinine method is a practical one; that several estates which were seriously affected by malaria have since the adoption of the systematic use of quinine within the past year obtained almost complete control over the disease, while neighbouring estates where quinine was not systematically used have continued to suffer severely. By means of quinine it should be possible to carry on work with Tamils even in very unhealthy localities with little loss of labour; but it is a method which requires much patient supervision."

Dr. Delmege, District Surgeon in charge of Ulu Selangor, reports as follows on the hospitals in that district:

"NUMBER OF CASES.—The total number of cases treated during the year shows an increase in in-patients and a decrease in out-patients, but this year I have not included any repetitions amongst the latter:

	1905.		1904.	
	In-patients.	Out-patients.	In-patients.	Out-patients.
Kuala Kubu ...	1,605	6,205	1,543	6,319
Rasa ...	...	3,258	...	4,750
Serendah ...	1,013	2,279	952	3,831
Rawang ...	1,037	1,680	931	3,236
Total ...	3,655	13,422	3,426	16,826



## “ DEATH-RATE :

				1905.		1904.		1903.
Kuala Kubu	...	...	...	14.95	...	17.20	...	20.04
Serendah	...	...	...	10.66	...	7.87	...	11.06
Rawang	...	...	...	11.80	...	6.90	...	10.09

The death-rate in Serendah and Rawang though increased from last year is not, I think, excessive. It is pleasing to note a further reduction in the high mortality of the last few years at Kuala Kubu :

## “ MORTALITY AT KUALA KUBU :

				1905.		1904.		1903.
Beri-beri	...	...	...	23.36	...	38.59	...	40.24
Diarrhoea	...	...	...	34.61	...	42.74	...	42.62
Dysentery	...	...	...	58.53	...	30.00	...	65.16
Phthisis	...	...	...	72.02	...	70.00	...	70.01

These are the diseases which have been in the main responsible for the high mortality.

## “ DYSENTERY.—The mortality has increased and so have the number of cases :

1904	...	...	...	...	...	...	...	20 cases
1905	...	...	...	...	...	...	...	41 cases

## “ PHTHISIS.—Remains about the same.

## “ BERI-BERI AND DIARRHOEA.—A well-marked decrease.

“ EPIDEMICS.—The district has been practically free during the year except for small outbreaks of measles and chicken-pox at both Kuala Kubu and Rawang.”

## DISTRICT HOSPITAL, KAJANG.

This hospital has throughout the year been under the care of Apothecary Ngai Leung. One thousand and eighteen patients were treated with a death-rate of 6.48 per cent. as against 971 and a death-rate of 4.94 per cent. during the previous year.

## DISTRICT HOSPITAL, SUNGAI BESI.

This hospital has been under the care of a Chinese Dresser. The total number of patients treated was 220 with 35 deaths as against 172 and 28 deaths in 1904.

## VETERINARY BRANCH.

Mr. Ford, Veterinary Surgeon, reports as follows on the work done by the Veterinary Department during the year :

“ The following outbreaks of contagious diseases have been dealt with.

“ RINDERPEST.—Besides the epidemic of this disease which commenced in March, 1904, in Kuala Lumpur, there have been five separate outbreaks in Selangor and one in Pahang at Bentong.

“ *Kuala Lumpur*.—Forty-eight cattle died during the year. This outbreak formed the subject of a special report to Government in April, 1905, when the disease was finally stamped out.

“ *Klang*.—At Simpang Lima a cow was found suffering from rinderpest on 27th May. I could not trace the origin of this outbreak, which was reported to have been brought to Klang by some bullocks from Malacca. The disease caused the death of 34 cattle, three of which were shot by my orders at the commencement of the outbreak in the hope of stopping further spread ; 131 animals were inoculated with anti-rinderpest serum ; there were 48 cases of the disease with 14 recoveries. The roads at Telok Panglina Garam and at Damansara bridge were closed to all cattle traffic from 30th May to 23rd August. The last death from the disease was on 26th July.

“ *Port Swettenham*.—A Bali bullock was found to be suffering from rinderpest on 14th June. This animal formed one of a cargo of 12, 10 Bali and two Siamese, consigned to the High Street butcher, who bought the animals at Singapore from Elam Din, Kampong Kapar, 11th June, shipped them to Port Swettenham, 13th June, where they arrived the next day. This outbreak caused the death of six cattle, three Bali, three Siamese ; 19 contact animals were inoculated with anti-rinderpest serum, three of which subsequently died.



"At the time these animals were landed there were in the quarantine sheds 62 cattle belonging to various owners. These were released from the station under instructions to the owners to keep the animals confined within their sheds until further orders for their release were given. Thirty-one cattle came up to Kuala Lumpur, 16 going to Batu Road and 15 to Sungei Besi Road, of these latter which belonged to a Tamil man named Supramaniam two developed the disease some four days after arrival and one died. The animals were all promptly removed to the Institute for Medical Research and no further cases occurred in Kuala Lumpur.

"*Kuala Lumpur*.—An Indian bullock, released, as stated above, from Port Swettenham, on 14th June, was found suffering from the disease on 23rd June and died 29th June. Thirteen cattle were inoculated with anti-rinderpest serum and no disease occurred amongst them.

"*Kuala Kubu*.—On 11th July I found 10 cattle suffering from rinderpest. I could not trace the origin of this outbreak. There were no cattle inoculated here, as I could not find any definite contact animals. There were 15 cases of the disease with five deaths. The outbreak was confined to three persons' sheds, all the animals in which were removed to the temporary quarantine station, the sheds were thoroughly disinfected, they were all cement floors, the woodwork all burned and no spread of the disease occurred in Kuala Kubu.

"*Tanjong Malim*.—On 8th July a Tamil man arrived here with eight cattle from Kuala Kubu, one of these animals developed rinderpest and died 16th July. The cattle were all removed from a shed in Ampang Pecha, where I subsequently found they had been in contact with diseased animals. The owner was prosecuted by the Perak authorities. There were seven cases of the disease four of which died. Twenty-three cattle contacts were inoculated with anti-rinderpest serum and no case of disease occurred amongst them.

"The roads in Ulu Selangor at Perak boundary, Semanko pass,  $37\frac{1}{2}$  miles Kuala Lumpur Road, and 39th mile Tanjong Malim Road, were closed from 14th July to 1st September.

"The sheds in which the diseased cattle were kept at Tanjong Malim were burned by my orders.

"*Bentong, Pahang*.—On 9th July two bullocks belonging to a Tamil man at Kuala Kubu arrived in Bentong sick, one of these died on 20th July, both had come from the same cattle shed in Ampang Pecha, where I found six cases of the disease on 11th July.

"I was sent to Bentong to advise the Pahang Government as to dealing with this outbreak; but I found on my arrival there that District Surgeon Dr. Woods had enforced such strict quarantine that the disease had not spread in any way; this was no doubt due to his prompt and energetic action, as an outbreak of rinderpest at Bentong would be a very serious matter if it assumed severe proportions, depending as this town does on its cattle traction for all supplies.

"**FOOT-AND-MOUTH DISEASE.**—There have been 159 cases of this disease scattered about the State. The number of deaths, 15, is very high indeed, and is distributed as follows: Rawang two deaths, in both cases due to neglect on part of owner; Kuala Lumpur one, as this bullock was very old probably old age played an important part in causing death. At Sungei Besi there have been 12 deaths amongst cattle suffering from foot-and-mouth disease, and it is significant that all these animals lived and worked at the 8th mile, just where a good deal of smelting is going on.

"**RABIES.**—*Gazette* No. 5, Notification 72, ordered all dogs in Kuala Lumpur to be confined or muzzled for two months, from February to April. The case was dealt with at the Institute for Medical Research, as was also a suspected case from Serendah in August.

"**DAIRIES.**—Fifty-six persons were licensed to sell milk representing buffalo cows 94, buffalo calves 39, cows 168, calves 142, or a total of 443 animals. The pens where milch cows are kept have been looked after for sanitary purposes by the Sanitary Board Inspectors and are all well kept and clean.

"**VISITS TO OUT-STATIONS.**—Altogether 154 visits have been paid to the various out-stations in Selangor, Negri Sembilan, Pahang and Perak.

"**MARKET AND SLAUGHTER HOUSES.**—Twenty-three surprise visits have been paid to these. The hanging room at the bullock slaughter house is rather small and more accommodation will have to be provided very shortly.

"The usual nightly slaughter in Kuala Lumpur is, bullocks four to five, buffaloes one to two, sheep ten to fifteen, pigs forty-five to fifty. The number of animals slaughtered for food depends a good deal on the fish supply in the market.

"**PROSECUTIONS.**—Twenty-one persons were prosecuted for various offences under the Quarantine Enactment, removing cattle without permission, *Gazette* Notifications 539 and 380. Four fines imposed from \$15-\$100, not obeying rule 70. Ten fines \$5-\$100, not reporting contagious disease, rule 65. Six fines from \$30-\$200. The latter fine was for a second offence within one year, removing sick bullocks, one fined \$25.

“QUARANTINE STATION, PORT SWETTENHAM.—The extension sanctioned to this station has not yet been commenced. This is a really serious drawback to the usefulness of the station as when disease breaks out amongst animals undergoing quarantine the only thing I can do at present to save the owners severe losses is to release all I possibly can, and run the risk (a small one, it is true, but still very real) of disease being taken to some other part of the State, usually to Kuala Lumpur.

“The small sheds asked for and sanctioned in 1904 are very necessary, as the sick and immediate contacts could be at once removed to them and all further spread of disease probably prevented. It would again, in many cases of outbreaks of disease in the quarantine station, not be necessary to close Port Swettenham to all arrivals of cattle, as was the case last June, when a bullock suffering from rinderpest arrived from Singapore.

“The Quarantine Station, Bukit Sintol, was occupied with sick and contact cattle during the rinderpest epidemic until March last, since when it has not been required for use, it will I hope be put in thorough order early in 1906.

“IMPORTS OF ANIMALS, PORT SWETTENHAM.—During the year 1,290 bullocks, cows, etc., 1,339 buffaloes, 3,994 sheep and goats, 354 horses and 19,258 pigs were inspected and dealt with by the Veterinary Inspector stationed at Port Swettenham ; a total of 26,235 animals.

“BLOOD EXAMINATION OF HORSES AND PONIES COMING TO KUALA LUMPUR.—The bloods of 18 gharry ponies were examined microscopically for surra with negative results, the examinations are made on arrival of the horses at Kuala Lumpur and again 10 days after. Horses arriving for the races are not examined, as they are all taken away as soon as the races are over.

“The two Veterinary Inspectors under me have worked well and carried out their work intelligently. A Veterinary Police Force will be started early this year, and will I think prove of great use in preventing the spread of epidemic diseases amongst animals by a more effective guard being available than heretofore.”

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#### EXAMINATION OF PETROLEUM.

Testing of petroleum at Port Swettenham was carried out under the supervision of District Surgeon Dr. Watson. The total quantity imported was 1,261,376 gallons of which 20,012 gallons was described as dangerous petroleum. Thirty samples were tested during the year.

E. A. O. TRAVERS,  
*State Surgeon, Selangor.*